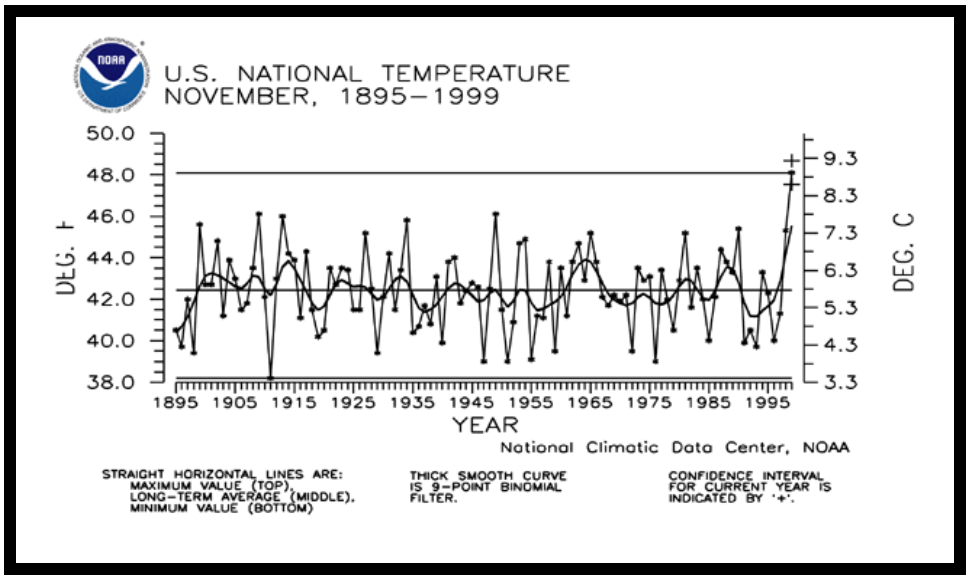
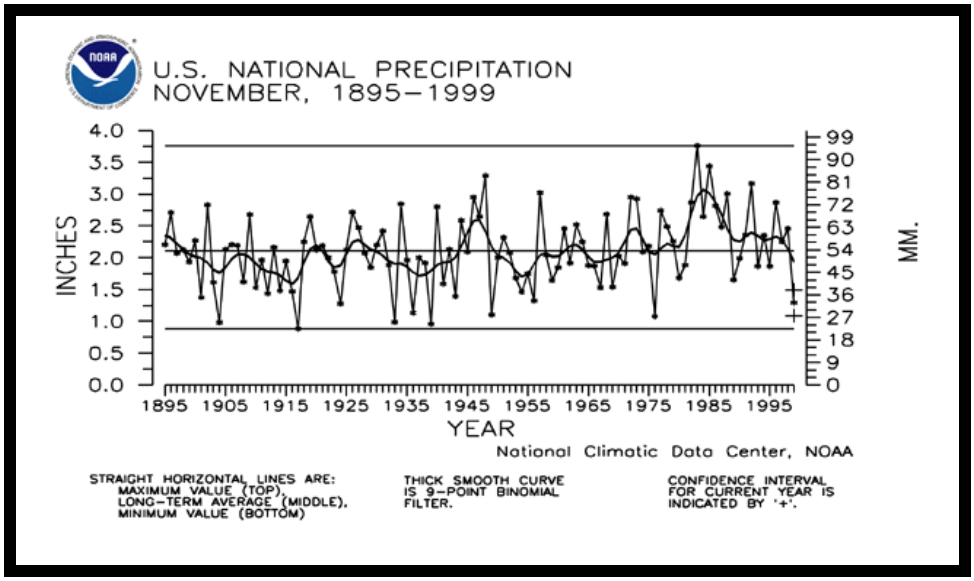
Monthly Activity Report

November 1999





Preliminary data for November 1999 indicated that the monthly mean temperature averaged across the contiguous United States was the warmest since 1895. The monthly mean temperature for November was 48.1F, a full two degrees warmer than the old record of 46.1F recorded in November 1949. Nearly 77 percent of the country was much warmer than normal, while less than one percent of the country was much cooler than normal (top figure).

Based upon preliminary precipitation data, November 1999 ranked as the ninth driest such month since 1895. Nearly 38 percent of the country was much drier than normal, while about one percent of the country was much wetter than normal (bottom figure).

DIRECTOR'S HIGHLIGHTS

NOAA Plans for Public Briefing

The National Oceanic and Atmospheric Administration (NOAA) is planning a press briefing December 13th on the top 10 weather/climate events of the century, along with the end-of-year wrap-up. Tom Karl, Director of the National Climatic Data Center (NCDC), will be participating, along with Jack Kelly, Assistant Administrator for Weather Services, and Dr. James Baker, NOAA Administrator. NCDC provided satellite images which will be provided to attendees in a press kit. The following images were provided: Super Tornado Outbreak, April 1974; Hurricane Camille, August 1969; The Great Midwest Flood, July 1993; Hurricane Andrew, August 1992; Storm of the Century, March 1993; Oklahoma Tornadoes, May 1999.

GLOBE Data Briefed to Commerce Secretary

The National Climatic Data Center's (NCDC) use of Global Learning and Observations to Benefit the Environment (GLOBE) data, reported from local schools in an analysis of Florida storm precipitation from Hurricane Irene, was briefed to the Commerce Secretary. The GLOBE program manager demonstrated its availability on the NCDC web page in preparation for the Secretary's visit to a GLOBE school.

October Climate Report

The National Climatic Data Center's (NCDC) October Climate Report has been placed on-line. Globally, temperatures continued running above the long-term mean but well below the record-setting value in 1997 and 1998. Most of the contribution to the warmth came from land temperatures: 1999's value of .67 degrees C above the mean was the fourth warmest since 1880. In the U.S., October's temperatures were near the long-term mean; however, the country was significantly drier then usual. In particular, a number of states from the central Midwest to the Southwest experienced near record dryness, with Arizona reporting its driest October in 105 years. The 1999 year-to-date tornado total was the second highest on record following the record total in 1998. For the 12-month period November 1998-October 1999, the majority of the U.S. from the Rockies eastward continued with near-record breaking warmth. For example, Maine, Vermont, New Hampshire, and Rhode Island all experienced their second or third warmest such period on record. The Ohio Valley region continued its long-term dry spell (West Virginia reported its sixth driest such period; however the 12-month long wet regime in the upper Plains was reflected by near-record rankings of precipitation (North Dakota fourth wettest and Minnesota fifth wettest).

Weather Disaster Page

The National Climatic Data Center's web page documenting occurrences of billion dollar weather disasters from 1980-1999 was featured on the Department of Commerce Home Page. The page is currently being updated to include a map depicting the locations of each disaster, and the dollar damage numbers will be adjusted for both inflation and a wealth index that takes into account the increase in goods available to the domestic and commercial sectors.

New On-Line Store Becomes Operational

The new On-Line Store went on-line November 1st, and generated close to 70 orders the first day. The National Climatic Data Center (NCDC) is now disconnected from a legacy ordering system and is using the NVDS Customer Order Management Processing System for both off-line and on-line orders. The new Store has the capability to more easily add other products.

CLIMATE DATA AND INFORMATION SERVICES

✦ Database Development

Precipitation Classification Project

On November 2, 1999, Dr. Alan McNab of the National Climatic Data Center (NCDC) presented the plan for developing global precipitation statistics and maps for the Precipitation Classification Project to Dr. Paul Krause from the U.S. Army Topographic Engineering Center. The input for the maps will be point precipitation statistics derived from 25 years of global precipitation data for about 4,000 stations. Satellite-derived surface characteristics (e.g., vegetation or surface wetness) will be examined as an ancillary source of high resolution information to augment the point precipitation data. High resolution topographic grids will be used to estimate errors due to the spatial distribution of the point precipitation data. The error-estimating algorithm will be developed using high resolution continental U.S. precipitation data.

NCDC to Compete for ASHRAE Funds

The National Climatic Data Center (NCDC) is preparing a proposal for the American Society of Heating, Refrigerating, and Air-conditioning Engineers (ASHRAE) for the ASHRAE research project titled, "Identify and Characterize International Weather Data Sets and Sources." The objective of this project is to produce a web page which identifies major worldwide sources of weather data suitable for engineering applications. NCDC is also working on a proposal with the Regional Climate Centers (RCC) for another ASHRAE project entitled, "Sources of Uncertainty in the Calculation of Design Weather Conditions in the ASHRAE Handbook of Fundamentals." The goals of this project are to determine the criteria for length of record and data completeness for including stations in the ASHRAE Handbook of Fundamentals; develop a method to estimate hourly design conditions from daily temperature observations; and provide information on the variability, frequency and duration of extreme design conditions.

Wind Climatology

The National Climatic Data Center (NCDC) is investigating methods to develop wind climatologies and has discussed some techniques with the Western Region Climate Center (WRCC). The Regional Climate Centers (RCC) have developed several summaries of wind statistics. The NCDC has requested documentation on wind summaries from all RCCs and plans to expand some of those regional programs to include the entire contiguous U.S. Further investigation of wind statistics programs will continue with NCDC resources, RCC networks, and possibly state networks.

✦ Data and Information Distribution

Near-Real Time Access to COOP data now provided

The National Climatic Data Center (NCDC) now has the capability to provide near-real time web access to preliminary climate data available from the Cooperative Station Network (COOP). This has been a collaborative effort with the Regional Climate Centers (RCCs). The RCCs collect the data, decode it, and provide preliminary quality control. These data are then ingested at NCDC, reformatted, and placed in NCDC's On-line Store for web access.

Customer Servicing Seminar

Tamara Creech of the National Climatic Data Center (NCDC) presented a seminar to NCDC personnel on the work she did for her Masters thesis at Northern Illinois University entitled, *Reassessing Climate Information and Services.* As part of her research, she developed a survey that was sent to climate data users in an effort to determine user satisfaction and to identify areas of improvement. Overall, customers were very satisfied with the service they received.

Tornado Climatology Technical Report

Technical Report 99-02 entitled, *1998-1999 Tornadoes and a Long-Term U.S. Tornado Climatology*, which provides climatological summaries and maps for tornadoes in the U.S. along with a special focus on tornadoes during 1998 and 1999, is available via the On-Line Store and also as a printed off-line report.

Corrections for Global Normals

The National Climatic Data Center (NCDC), in cooperation with the World Meteorological Organization (WMO), produced a set of Global Normals for 1961-1990. A printed version was published by the WMO in 1996, and a CD-ROM version was produced by NCDC in 1998. Errata sheets for the Global Normals printed version and CD-ROM version have been completed. A combined sheet that lists significant differences in data and errors between the printed and CD-ROM versions is also completed.

New Web-based Customer Statistics Access System

The National Climatic Data Center (NCDC) has developed a web-based system that allows access to customer database statistics at all three National Oceanic and Atmospheric Administration Data Centers. The new system provides minute-by-minute, real-time accountings of orders received and revenue generated as tracked in the Customer Order Management Processing System (COMPS). The reports provide real-time statistics as dynamically generated from the COMPS Oracle tables. Future plans call for the addition of all COMPS reports via this system.

NNDC On-line System Statistics

For the month of November, a total of 1,284 orders were placed and 2,976 products were ordered. Almost all of these orders were for products dynamically generated from on-line databases as opposed to off-line products ordered on-line, such as publications and CD-ROMS.

Climate Database Modernization Program

Congress has initiated a new Climate Database Modernization Program for FY 00. This program will be managed by the National Climatic Data Center (NCDC) with Ken Davidson as the Program Manager. Work is being performed to establish the program at NCDC, establish priorities, write statements of work, and prepare budgets.

✦ Satellite Data Requests

North Carolina Flood Images to go on Display

The North Carolina State Museum of Natural History is planning a grand opening of a new museum in Raleigh, NC, for April 7, 2000. As part of the display, the museum officials will use several pre- and post-flood images of eastern North Carolina caused by Hurricanes Dennis and Floyd last summer. The National Climatic Data Center (NCDC) has provided a set of high resolution satellite images taken by the National Oceanic and Atmospheric Administration's Polar-orbiting Environmental Satellites (POES). The flood images clearly show tremendous flooding along a number of major rivers and tributaries. In some cases, smaller rivers not visible in normal conditions are distinctly visible. The display promises to be an eye-catcher as these images will be as large as three feet tall. The original image is on-line at NCDC's September 1999 Climate-Watch page www.ncdc.noaa.gov/ol/climate/extremes/1999/September/extremes0999.html.

Andrew-Floyd Comparison Image Goes on Display

The National Oceanic and Atmospheric Administration's Headquarters contacted the National Climatic Data Center (NCDC) for a large print of a special satellite composite image showing the size comparison of Floyd and Andrew. The special composite was created using Advanced Very High Resolution Radiometer images and mapping the images to a common projection using a Geographic Information System program called Environmental Visualizations. The image will be on permanent display in the lobby. The image can be viewed on NCDC's September 1999 Climate Watch page.

✦ Congressional Requests

Hurricane Jose Image Mailed

An oversized image of Hurricane Jose was framed and mailed to Neal O'Hara of the National Oceanic and Atmospheric Administration's (NOAA) Legislative Affairs office for future presentation to Congressman Jose E. Serrano. The image, which depicts Hurricane Jose during its approach to Puerto Rico and the Virgin Islands, displays the NOAA logo and was identified as being from the National Climatic Data Center. Congressman Serrano, who was born in Puerto Rico and now serves as a representative from New York, is the Ranking Democrat on the Subcommittee on Commerce, Justice, State, Judiciary, and related agencies of the House Appropriations Committee.

✦ Requests from News Media

Climate Change Interview

Several National Climatic Data Center employees were interviewed on November 19, 1999, by author Robert Reiss, who was gathering information for a possible book on climate change and climate impacts.

✦ Technology Applications

ASOS Stations

The Geographic Information System software, ArcView, was used to plot a series of maps showing the National Weather Service's Automated Surface Observing System (ASOS) stations commissioned each year from 1992 through October 1999. The maps show the areal coverage and density of stations needed to determine the temporal and spacial limits for comparisons of ASOS and conventional data. Preliminary review of the maps indicate that national coverage for the ASOS stations was not available until 1996 or 1997 for investigating and developing potential data adjustment algorithms. Prior to 1995, areal coverage was inadequate for even regional studies.

✦ Regional and State Climate Centers

Inspector General Visits NCDC

A representative of the Department of Commerce Office of the Inspector General visited the National Climatic Data Center (NCDC) in regards to the Regional Climate Center (RCC) Program. As part of their regular cycle of audits, they are gathering background information on the RCC program. A decision will be made later as to whether a full audit will be conducted.

Regional Climate Center Management Issues

Dr. Richard Reinhardt, Director of the Western Regional Climate Center, visited the National Climatic Data Center (NCDC) to participate in a meeting with the South Carolina Department of Natural Resource (DNR) management concerning the Southeastern Regional Climate Center (SERCC). Mr. Alfred Vang, Deputy Director for the DNR, will be the acting SERCC Director while a search is made for a new permanent Director. The Regional Climate Center Directors will meet

in Asheville, NC, December 8-10, 1999. Discussions will center on current activities, and new items such as the Business Plan and FY 02 initiatives.

WRCC Actions

Kelly Redmond attended the annual Western Regional Climate Center (WRCC) WCC-102 Climate Coordinating Committee meeting in Phoenix, AZ. A highlighted subject was the use of the Geographic Information System (GIS) in climate. There is a great deal of interest in up-to-date monitoring products with the level of detail that only the Cooperative sites can furnish, if enough of them can consistently provide data.

SCIENTIFIC AND PROFESSIONAL ACTIVITIES

✦ Climate and Global Change

Climate Watch Page On-Line

The National Climatic Data Center's (NCDC) Climate Watch Page for November featured the record breaking warmth across the central portion of the U.S. Hundreds of daily records for maximum temperature were broken, and dozens of major urban locations set all-time records for warmth for the month of November. Preliminary information from a site in South Dakota, with an 89 degree reading, established a new state record for the month. Records for the state begin in 1890.

✦ Working Groups/Committees/ Meetings

Global Warming Symposium

Dr. David Easterling of the National Climatic Data Center participated in the Special Symposium on Global Warming at the American Nuclear Society winter meeting in Long Beach, CA. This was a special event organized by Dr. Easterling and others through the American Meteorological Society as an outreach activity, and included seven prominent climate scientists giving talks in their respective fields of expertise.

Climate Mini-Workshop

Dr. Tom Peterson of the National Climatic Data Center participated in a climate mini-workshop sponsored by the Goddard Institute for Space Studies. The workshop focused on the climate of the last 50 years. The goal was to have "data people" emphasize what they think are key characteristics of observed climate change that modelers should focus on, and have modelers describe what the models suggest are the most telling observations.

Integrated Metadata Repository Workshop

Jeff Arnfield of the National Climatic Data Center hosted a four-day, in-house Integrated Metadata Repository Workshop. A project was initiated to develop and implement a single Integrated Metadata Repository (IMR) for metadata using ORACLE as the Database Management System (DBMS). The project includes the conversion of current metadata DBMS to ORACLE and SHIPS maintenance and development activities.

NWS Field Interaction

Steve DelGreco represented the National Climatic Data Center (NCDC) at the National Weather Service (NWS) Cooperative Program meeting in Kansas City, MO. Steve addressed issues

regarding operational NWS field interaction with NCDC.

✦ Visitors

Russian Visitors

Dr. Sergey Egorov and Dr. Nina Zaitseva from Russia, and Roy Jenne of The National Center for Atmospheric Research (NCAR), visited the National Climatic Data Center (NCDC) November 16-19 to discuss the second version of the Russian drifting station (North Pole) upper air data set. The preparation and quality control of the data were reviewed. After the discussions, it was concluded that the errors found in the first version have been corrected. A copy on CD-ROM was provided to NCDC. NCAR will perform a validation check on the second version, as they did on the first, to see if any questionable data remain. After that the data set will be documented and released for use.

Project First Flight

As a result of a meeting with Dr. Elizabeth Ward, NASA Office of Education, and Ms. Tara Baughman, South Carolina Space Grant Consortium, the National Climatic Data Center (NCDC) has agreed to supply copies of all summary forms in the archive on the date of the Wright Brother's first flight. The records for Kitty Hawk and Cape Hatteras, NC, on December 17, 1903, were retrieved from the archives. The records indicated a cool day on the coast with rather strong surface winds. Cape Hatteras reported a stratus overcast in the morning with a gale reported later in the day. Kitty Hawk was clear with northeast winds. The records will be used for a Congressional project commemorating the Wright Brothers First Flight.

✦ Publications

A Brief Review Paper

Observed Variability and Trends in Extreme Climate Events: A Brief Review has been accepted for publication in the *Bulletin of the American Meteorological Society*.

Inhomogeneities Paper

A paper titled *A Method for Monthly Detection of Inhomogeneities and Errors in Daily Maximum and Minimum Temperatures* was presented at the 24th Annual Climate Diagnostics Workshop in Tucson, November 1-5, 1999.

Journal Submission

A paper titled *Pan Evaporation Trends in Dry and Humid Regions of the United States* was submitted to the *Journal of Climate* for their new, quick turnaround letters section. Pan evaporation was shown to be decreasing in all regions of the United States except the humid Southeast, and it was inversely related to trends in precipitation.

Earth Systems Monitor Article

An article has been submitted for publication in NOAA's Earth Systems Monitor in December 1999. The article, *The National Climatic Data Center's (NCDC) New Climate Monitoring Group Products, Reports and Analyses Applicable to Earth Science*, will include examples of NCDC's climate monitoring products, including global and U.S. time series of temperature and precipitation, and blended satellite/in situ analyses. It will also include information about additional special events and Climate Watch reports that highlight global climate events.

EMPLOYEE ACTIVITIES

✦ Personnel Resources

Health and Wellness

The Federal Occupational Health Unit Nurse administered the yearly flu vaccines to National Climatic Data Center personnel and the participating agencies during November. The Wellness Center Fitness Instructor conducted an 8-week "Freedom from Smoking" program which concluded in November.

✦ Training

Windows Seminar

Mark Smith of the National Climatic Data Center (NCDC) attended a one-day seminar in Atlanta, GA, to discuss Fastlane's Enterprise Directory Management (DM) suite of software, which is primarily designed to aid very large WindowsNT-to-Windows2000 Server migrations. It can also be used to prepare for client software rollouts, such as a Windows98-to-Windows2000 upgrade, by surveying the client desktop computers and reporting deficiencies in memory, drive space, CPU capacity, etc., required by the newer operating system. DM also supports Novell NDS, which is in use at NCDC. The DM suite is a very powerful, well designed, and easy to use.

Storage Area Network Seminar

Doug Snowden of the National Climatic Data Center attended a one-day seminar in Atlanta, GA, that was sponsored by the Network World publication. The primary focus on the seminar was on Storage Area Networks (SAN). SANs are a good way to handle storage needs in the future, but it appears that there should be a waiting period since the new technology is not mature. It appears that the year 2003 is the time when the SAN will have all the necessary pieces in place that make implementation easier.

Adobe Photoshop Workshop

Axel Graumann and Steve Fleming of the National Climatic Data Center (NCDC) attended a two-day workshop entitled "Mastering Adobe Photoshop." Adobe Photoshop is used on a regular basis for placing images on the NCDC web site and for producing satellite images. The workshop was very comprehensive. The key points covered were: optimizing your PC for maximum performance, Photoshop's essential features and capabilities, improving productivity using macros, image color fundamentals, cropping techniques, and resolution basics.

The following charts and graphs show the latest National Climatic Data Center user and data statistics.

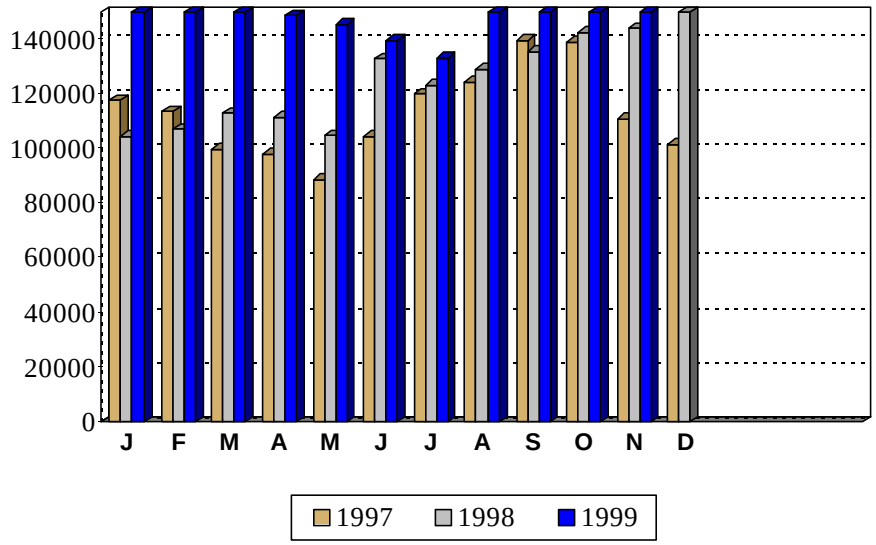
Customer Profile Based on Orders

No information available for the month of November.

Customer Profile Based on Order Cost

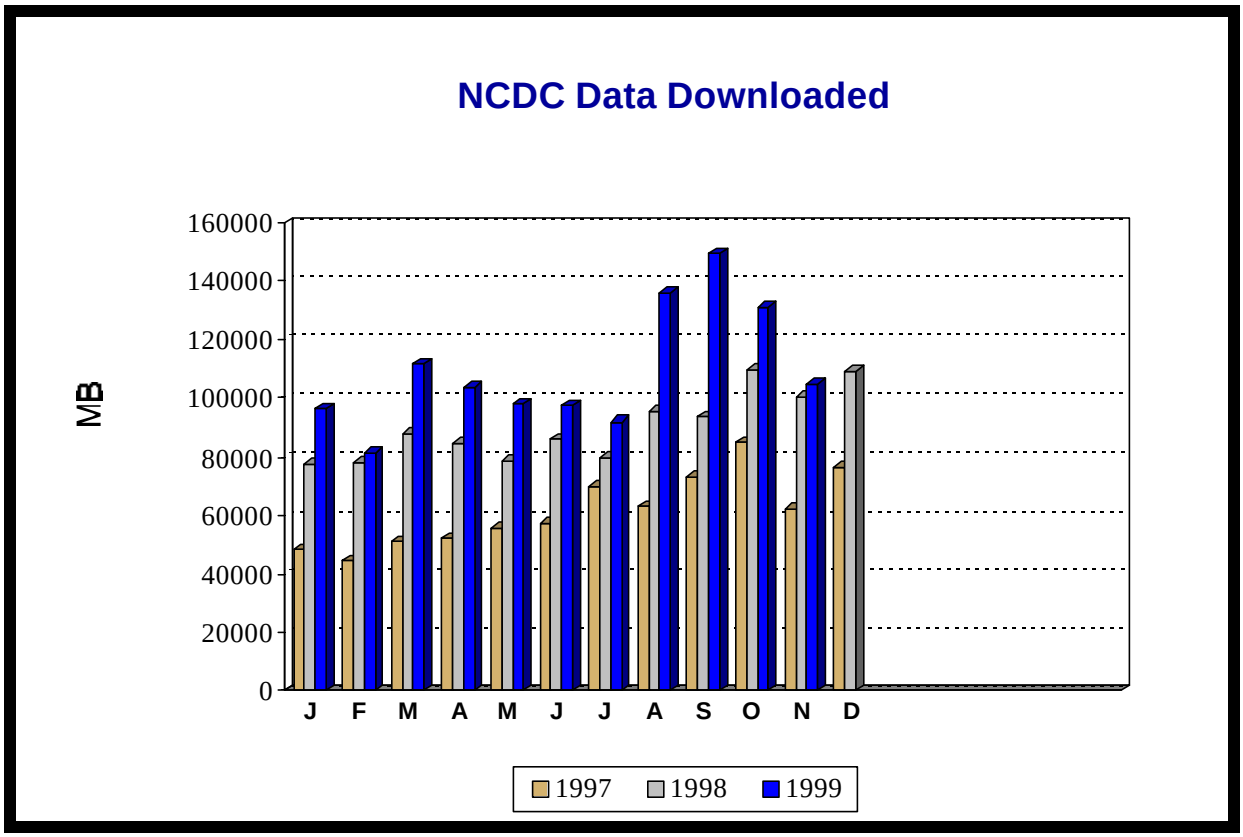
No information available for the month of November.

NCDC On-Line Users



NCDC Off-Line Customer Contacts

No information available for the month of November.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J F M A M J J A S O N D
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